

REMARKS/ARGUMENTS

I. Claim Amendments

Applicant has amended claims 1 and 18 to more properly characterize the present invention. Minor amendments have also been made to many of the dependent claims to ensure proper dependency and antecedent bases.

II. Claim Rejections - 35 USC § 103

Claims 1 and 18 were rejected under 35 U.S.C. 103(a) as being unpatentable over Organ et al. (6768921) in view of Skladnev et al. (6723049) and further in view of Seale (4646754). Applicant respectfully disagrees for the following reasons.

Claim 1 recites a system for diagnosing the possibility of disease in one of a first body part and a second substantially similar body part by impedance measurements, the system comprising a correction module for obtaining a first correction factor for the first body part and a second correction factor for the second body part, the first and second correction factors accounting for impedances inherent in non-body part sources, the correction module including a magnitude correction module for calculating first and second magnitude correction factors, and a phase correction module for calculating first and second phase correction factors, where the first correction factor is composed of the first magnitude correction factor and the first phase correction factor, and where the second correction factor is composed of the second magnitude correction factor and the second phase correction factor.

Seale discloses a non-invasive system and method for inducing vibrations in a selected element of the human body and detecting the nature of response for determining mechanical characteristics of the element are provided. In particular, this reference teaches using a driver to induce vibrations below 20 KHz into underlying body structures. Ultrasound is cited as the means for sensing the structure vibrational motions induced by the driver, for example, in the carotid artery. According to an

aspect, a pulsed ultrasound system measures the time-varying depths of the near and far walls of the artery segment under test, along three cross-arterial axes in the same plane. It is said that circuits correlate ultrasound depth variations with the audio driver vibration signals, to determine the amplitudes and phases of vibrational velocities associated with the three changing diameters and center-depths. The reference mentions that the ultrasound signal has been subjected to phase and amplitude correction to maximize depth resolution, by achieving a phase-linear response pulse with smooth band limiting of amplitude. (Col. 9, lines 42-45.)

Obviousness can only be established if the prior art references, when combined, teach or suggest all the claim limitations, and such analysis must consider the claimed invention as a whole. It is submitted that the prior art references when combined do not teach or suggest all the claim limitations of claim 1. In particular, the prior art references fail to teach or suggest a correction module including a magnitude correction module for calculating first and second magnitude correction factors, and a phase correction module for calculating first and second phase correction factors.

As recited in claim 1, the purpose of the first and second correction factors, each comprising magnitude and phase correction components, is to account for impedances inherent in non-body part sources. This is in contrast with the teachings of Seale, which mentions having phase and amplitude correction to maximize depth resolution of an ultrasound signal. It is not reasonable to adapt the phase and amplitude correction of Seale (used to maximize the depth resolution of an ultrasound signal) to account for impedances inherent in non-body part sources in a bioimpedance measurement system.

In addition, the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, and therefore the teachings of the references are not sufficient to render claim 1 prima facie obvious. In this case, the combination of systems relying on electrical impedance measurement

(Organ and Skladnev) with a control aspect for a vibration/ultrasound system (Seale) is untenable.

Overall, it is submitted that the combination of the references proposed by the Examiner is not reasonable and can only be viewed with the benefit of impermissible hindsight vision afforded by the claimed invention. For at least these reasons it is submitted that Searle, either alone or in combination with the other cited references, does not renders claim 1 obvious.

Claim 18 recites a method for diagnosing the possibility of disease in one of a first body part and a second substantially similar body part by impedance measurements, the method comprising obtaining a first correction factor for the first body part and a second correction factor for the second body part, the first and second correction factors accounting for impedances inherent in non-body part sources, the step of obtaining including calculating first and second magnitude correction factors, and calculating first and second phase correction factors, where the first correction factor is composed of the first magnitude correction factor and the first phase correction factor, and where the second correction factor is composed of the second magnitude correction factor and the second phase correction factor.

For the same reasons mentioned above with respect to claim 1, it is submitted that Seale, either alone or in combination with the other cited references, does not render claim 18 obvious. Claims 2 and 3-17 depend from claim 1 and claims 19 and 21-32 depend from claim 18 and all are therefore patentable over the cited references for at least these reasons.

III. Allowable Subject Matter


Applicant notes the Examiner's acknowledgment as to the allowability of the subject matter of claims 4-17 and 21-32. However, in light of the amendments and remarks presented herein, Applicant submits that all claims are allowable. Reconsideration is respectfully requested.

Applicant submits that this case is in condition for allowance. However, should the Examiner have any concerns with the claims as amended, applicant invites the Examiner to call the undersigned at (416) 957-1697 to discuss the case and avoid the expense and time of issuing a further communication.

Respectfully submitted,

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By



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